

1. A system for securely storing medical data, comprising  
an input process allowing an individual to enter identity information and medical  
data to associate with the identity information,  
5 an encryption key process for providing to each individual an encryption key for  
encrypting medical data associated with the individual, and  
a data table generator for storing medical data including encrypted medical data,  
in a table, whereby stored medical data from different individuals may be encrypted with  
different encryption keys.
- 10 2. A system according to claim 1, further comprising  
a key table generator for storing the encryption key in a key table.
3. A system according to claim 1, wherein the input process includes  
15 a private identity generator for generating for an individual a unique private  
identity being generated independently of the identity information.
4. A system according to claim 3, wherein the private identity generator includes a  
random number generator for generating a random number for the private identity.
- 20 5. A system according to claim 3, wherein the random number generator is selected  
from the group consisting of
6. A system according to claim 3, further including  
25 means for employing the private identity as a relational link key for relating medical  
data associated with the individual to the encryption key associated with the individual.
7. A system according to claim 3, wherein the encryption key process includes

a process for generating the encryption key as a function of the private identity.

8. A system according to claim 3 wherein the encryption key process includes  
a process for generating the encryption key as an asymmetric function of the  
5 private identity.

9. A system according to claim 3 wherein the encryption key process includes  
a process for generating the encryption key as a symmetric function of the private  
identity.

10. A system according to claim 2, further including  
a table encryption process for encrypting the key table to secure the encryption key  
stored therein.

11. A system according to claim 3, further comprising  
a relational link generator for processing the private identity to generate a relational link  
for associating medical data in the data table with a respective private identity.

12. A system according to claim 11, wherein the relational link generator includes a  
process for processing the private identity selected from the group consisting of a  
symmetric key algorithm, an asymmetric key algorithm, an asymmetric key algorithm,  
and a hash algorithm.

13. A system for storing medical data, comprising  
an input process for allowing an individual to enter identity information and medical  
data to associate with the identity information,  
a private identity generator for generating independent of the identity information,  
a unique private identity for the individual,

an encryption key process for providing to the individual a respective encryption key for encrypting the medical data of the individual,  
a relational link generator for providing relational links for the medical data and the encryption key associated with the individual, whereby the medical data and encryption  
5 key can be stored in a table of a relational database.

14. A system according to claim 13, wherein the relational link generator includes an encryption process for encrypting a relational link for accessing medical and/or the encryption key.

15. A system according to claim 13, wherein the relational link generator includes a hash process for generating a relational link as a hash function of the private identity.

16. A system according to claim 13, wherein the private identity generator includes a random number generator for generating the private identity as a function of a random number.

17. A system according to claim 16, wherein the relational link generator includes a process for encrypting the private identity to provide an encrypted relational link.

18. A process for controlling access to medical data, comprising:  
allowing an individual to provide medical data and identity information,  
providing the individual with a private identity and storing the medical data and identity information in tables of a relational database employing the private identity to  
25 provide a relational link to the medical and identity data,  
employing the private identity to create an encryption key for the respective individual, and  
encrypting, as a function of the encrypting key, medical data associated with the

individual, whereby medical data of different individuals are encrypted with different respective encryption keys.

19. A process according to claim 18, further comprising:

5 allowing a medical professional to search the relational database to identify medical data of interest.

20. A process according to claim 18, further comprising:

10 allowing a medical professional to request identity information associated with medical data in the relational data base, and employing the private identity to notify the respective individual of the request.

21. A process according to claim 18, further comprising:

15 allowing the individual to control access to the medical data of the individual.

22. A process according to claim 18, further comprising:

allowing the individual to store portions of the medical data in the clear and portions in an encrypted form.

20 23. A process according to claim 22, comprising:

allowing a medical professional to search the relational database.